

7th FAI-IPI-IPNI Round Table Conference on “Refinement of K Recommendations in Vertisols”

The Fertiliser Association of India (FAI), International Potash Institute (IPI) and International Plant Nutrition Institute (IPNI) jointly organised a Round Table Conference on “**Refinement of K Recommendations in Vertisols**” on 20th March, 2012 at NAAS Committee Room No.1, NASC Complex, New Delhi. Dr. R.K. Tewatia, Chief (Agricultural Sciences), FAI welcomed the Chief Guest and participants. Mr. Hillel Magen, Director, IPI, Switzerland and Dr. Kaushik Majumdar, Director, South Asia Program International Plant Nutrition Institute (IPNI), Gurgaon gave introduction to programme. Dr. A.K. Singh, Dy. Director General (NRM), ICAR delivered the opening address. Thirty scientists / officials from ICAR, State Agricultural Universities, Planning Commission, Ministry of Agriculture, International Plant Nutrition Institute, Potash Research Institute of India, IPI, International Zinc Association, FAI and Fertiliser Industry participated in the round table conference.

In the programme introduction, Mr. Hillel Magen, Director, IPI, underlined the need of refinement of K recommendations in vertisols. He informed that this round table is the continuation of the workshop held at Nagpur in August 2010. The main objectives of the programme are:

- To confirm the need for updating K fertilization recommendations in vertisols
- To agree on the required steps to be taken
- To draw the procedure for the needed change

He mentioned that the round table has very important composite of delegates and the cooperation from various organisations can help in achieving better solution. Reaching consensus and sticking to conclusions will enable to better utilise K fertiliser in vertisols of India.

Dr. Kaushik Majmudar, IPNI mentioned that vertisols have both advantages and limitations. K fertility classes in vertisols need change because these soils respond to K application even if the soil shows very high K. It is now high time to resynthesize the available information. He hoped that this session will take forward from where ended in last workshop at Nagpur.

In his opening remarks, Dr. A.K. Singh, DDG (NRM), ICAR stated that he was interested of more science based approach for K fertilisation because India is dependant on imports for its entire K requirement. Moreover, handful of people is controlling the K prices in international market. The luxury consumption of potash in plant is another problem. Dr. Singh mentioned that Vertisols, covering 73 million hectares in India, are generally rainfed. There is need to have totally new recommendations for rainfed crops. He underlined the need of multi-discipline, multi-location, studies using GIS maps. He expressed his keenness on the outcome of the round table and looked for something worthwhile and important which could be built in planning document.

In all six papers were presented in the programme namely Assessment of Potassium Availability in Vertisols and its Implication on Fertiliser K Recommendations by Dr. A. Subba Rao, Director, IISS, Bhopal; Effect of Mineralogical Characteristics on Potassium Availability in Vertisols of India and Implications on Critical K limits by Dr. Tapas Bhattacharyya, Head, Soil Resource Studies, NBSS&LUP, Nagpur; Potassium Dynamics in Dryland Cropping Systems in Vertisols and Impact on K Availability by Dr. Ch. Srinivasa Rao, Principal Scientist, CRIDA, Hyderabad; Potassium Requirement of Crops Grown in Vertisols: Experience from STCR by Dr. Pradip Dey, Coordinator, STCR, IISS, Bhopal; Fertilizer-K recommendation for cotton grown on Vertisols: Is there a need for revision? by Dr. Blaise Desouza, Head, Division of Crop Production, Central Institute for Cotton Research, Nagpur; and Need to Revising K Recommendations in Vertisols by Dr. B. Basavaraj, Professor of Soil Science & Agril. Chemistry, College of Agriculture, Dharwad, Karnataka

A detailed discussion was held after the each presentation.

In the concluding session, Mr. Hillel Magen, Director, IPI requested the participants to give their suggestions. A number of suggestions came from the delegates. Summing up the session, Mr. Hillel Magen, Director, IPI mentioned that swell-shrinking soils, including vertisols, account for 27 million ha, and are dominant in India in agro-eco-regions 5, 6, 7 & 8. Currently, K fertilization in India is given on a broad basis, without any reference to soil type, crop and expected yields. He pointed out that IPI, IPNI, NBSS & LUP conducted a workshop in Nagpur in 2010 in which the needs to revise the recommendations of K fertilization was described in details. He set the objectives of the round table meeting being held at the NASC complex in Delhi were to identify the process in which these recommendations can be revised and to implement it.

It was proposed that a national team led by Dr. A. Subba Rao, Director, IISS, Bhopal would define new K recommendations in Vertisols. The parameters to be included Soil K exchangeable and non-exchangeable levels, CEC, Target yields, also in relation with Irrigated and rainfed crops need CR management.

The following actions would be needed to get additional information to improve the recommendations:

1. Setup few experiments in major crops grown on vertisols with graded level of K treatments in both rainfed and irrigated crops in association with State Agri Universities of the region. Such information seems to be critical, especially in rainfed agriculture.
2. Further analyze data from on-farm trials under PDFSR (Modipuram)
3. Assess and provide guidelines on K contribution from sources other than K fertilizers (irrigation, CR, more)
4. All future activities should be geo-referenced

It was opined that the process of setting new recommendations for K in vertisols should not take more than 2 years provided it is recognized and supported by ICAR and Ministry of Agriculture

It was proposed to form two teams to assist Dr. Subba Rao.

1. Advisory Team (AT) which consists of all the participants of the meeting. The AT will provide general forum for consultation, as required by Dr. Subba Rao.
2. Expert Team (ET) to assist Dr. Subba Rao as required in the process. This team can provide technical and other assistance. The following persons will participate in the ET, and any other person Dr. Subba Rao may like to add to the ET:

- i. S.K. Bansal
- ii. Ch. Srinivasa Rao
- iii. K. Majumdar
- iv. M.S. Brar
- v. R. K. Tewatia
- vi. T. Bhattacharyya
- vii. V.K. Singh
- viii. H. Magen

It was proposed that the first draft for submission to the ICAR and Ministry of Agriculture should be completed by end of May 2012.

The programme ended with a vote of thanks from Dr. R.K. Tewatia. He thanked all the speakers for their nice presentation and all the participants for their active participation in discussion.